

Varied Fluency

Step 9: Mixed Addition and Subtraction

National Curriculum Objectives:

Mathematics Year 6: (6F2) [Use common factors to simplify fractions; use common multiples to express fractions in the same denomination](#)

Mathematics Year 6: (6F3) [Compare and order fractions, including fractions \$> 1\$](#)

Mathematics Year 6: (6F4) [Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions](#)

Mathematics Year 6: (6F11) [Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts](#)

Differentiation:

Developing Questions to support adding and subtracting mixed numbers and improper fractions. Includes denominators which are direct multiples of the same number.

Expected Questions to support adding and subtracting mixed numbers and improper fractions. Includes denominators which are not always direct multiples of the same number.

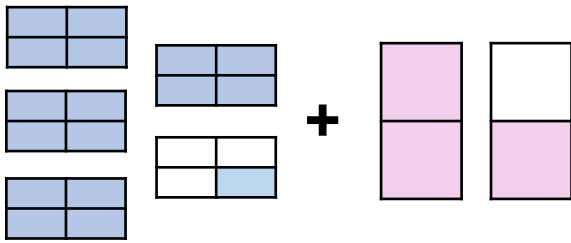
Greater Depth Questions to consolidate applying addition and subtraction of mixed numbers and improper fractions to a variety of contexts. Includes denominators which are not direct multiples of the same number. Answers to be simplified where possible.

More [Year 6 Fractions](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Mixed Addition and Subtraction

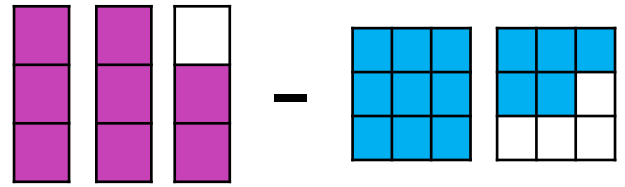
1a. Convert the images below into mixed numbers and improper fractions. Solve the calculation.



VF

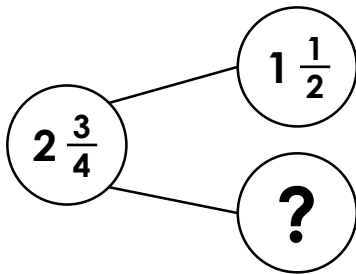
Mixed Addition and Subtraction

1b. Convert the images below into mixed numbers and improper fractions. Solve the calculation.



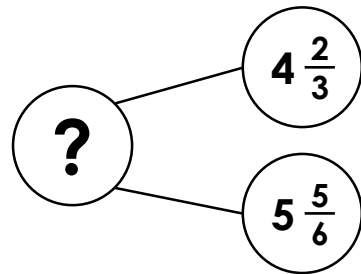
VF

2a. Complete the part-whole model.



VF

2b. Complete the part-whole model.



VF

3a. Solve the calculations below.

$$\frac{3}{2} + \frac{3}{4} + \frac{5}{6} = \square$$

$$\frac{14}{12} - \frac{1}{2} - \frac{1}{6} = \square$$



VF

3b. Solve the calculations below.

$$\frac{4}{5} + \frac{9}{10} + \frac{2}{5} = \square$$

$$\frac{13}{6} - \frac{2}{3} - \frac{2}{2} = \square$$



VF

4a. Terri is thinking of a fraction.



Terri

When you add $1 \frac{1}{4}$
to my fraction, the
answer is $5 \frac{5}{8}$

What fraction is Terri thinking of?



VF

4b. Bill is thinking of a fraction.



Bill

When you take $3 \frac{2}{5}$
from my fraction,
the answer is $2 \frac{6}{15}$

What fraction is Bill thinking of?

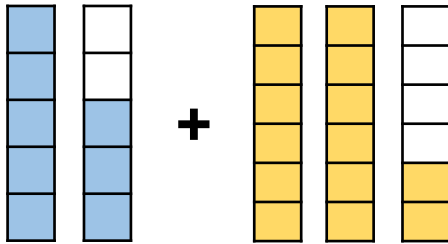


VF

Mixed Addition and Subtraction

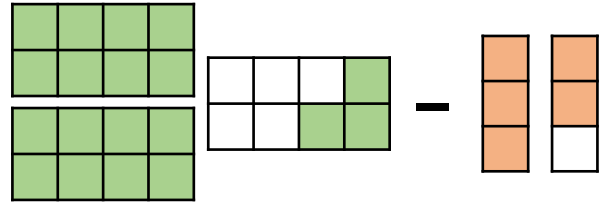
Mixed Addition and Subtraction

5a. Convert the images below into mixed numbers and improper fractions. Solve the calculation.



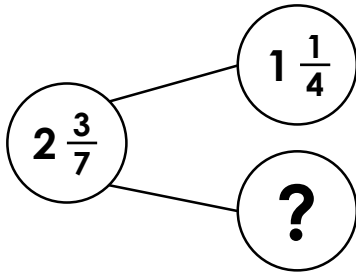
VF

5b. Convert the images below into mixed numbers and improper fractions. Solve the calculation.



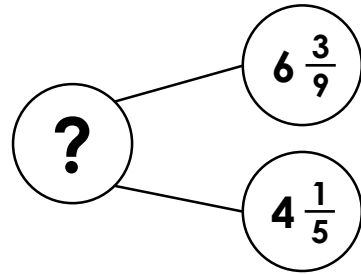
VF

6a. Complete the part-whole model.



VF

6b. Complete the part-whole model.



VF

7a. Solve the calculations below.

$$\frac{8}{3} + \frac{6}{4} + \frac{2}{6} = \square$$

$$\frac{4}{3} - \frac{1}{5} - \frac{4}{15} = \square$$



VF

7b. Solve the calculations below.

$$\frac{8}{9} - \frac{3}{4} - \frac{1}{12} = \square$$

$$\frac{7}{10} + \frac{10}{4} + \frac{3}{5} = \square$$



VF

8a. Laura is thinking of a fraction.



Laura

When you add $1 \frac{3}{8}$
to my fraction, the
answer is $3 \frac{4}{6}$

What fraction is Laura thinking of?



VF

8b. Ali is thinking of a fraction.



Ali

When you take $2 \frac{4}{5}$
from my fraction,
the answer is $5 \frac{6}{12}$

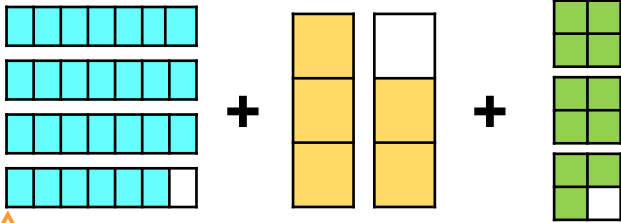
What fraction is Ali thinking of?



VF

Mixed Addition and Subtraction

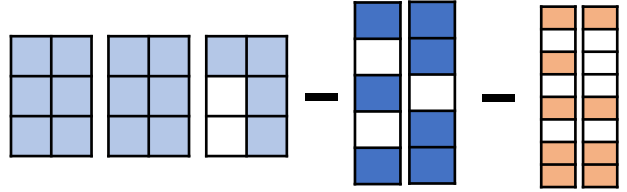
9a. Convert the images below into mixed numbers and improper fractions. Solve the calculation giving the answer in its simplest form.



VF

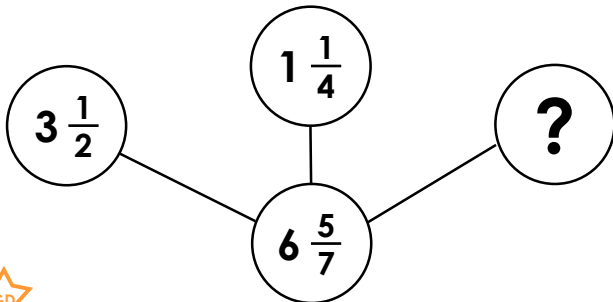
Mixed Addition and Subtraction

9b. Convert the images below into mixed numbers and improper fractions. Solve the calculation giving the answer in its simplest form.



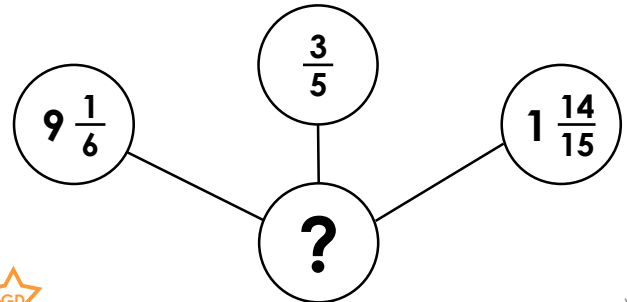
VF

10a. Complete the part-whole model.



VF

10b. Complete the part-whole model.



VF

11a. Solve the calculations below.

$$\frac{9}{2} + \frac{12}{3} + \frac{9}{7} = \square$$

$$\frac{13}{7} - \frac{1}{2} - \frac{4}{6} = \square$$



VF

11b. Solve the calculations below.

$$\frac{10}{3} + \frac{23}{5} + \frac{33}{6} = \square$$

$$\frac{26}{9} - \frac{5}{4} - \frac{8}{6} = \square$$



VF

12a. Becki is thinking of a fraction.



Becki

When you add $4\frac{3}{9}$
to my fraction, the
answer is $\frac{38}{5}$

What fraction is Becki thinking of?



VF

12b. Toby is thinking of a fraction.



Toby

When you take $4\frac{3}{7}$
from my fraction,
the answer is $\frac{233}{21}$

What fraction is Toby thinking of?



VF

Varied Fluency Mixed Addition and Subtraction

Developing

1a. $4\frac{1}{4} = \frac{17}{4}$; $1\frac{1}{2} = \frac{3}{2}$

$4\frac{1}{4} + 1\frac{1}{2} = 5\frac{3}{4}$

2a. $1\frac{1}{4}$

3a. $\frac{3}{2} + \frac{3}{4} + \frac{5}{6} = 3\frac{1}{12}$;

$\frac{14}{12} - \frac{1}{2} - \frac{1}{6} = \frac{6}{12}$

4a. Terri's fraction is $4\frac{3}{8}$.

Expected

5a. $1\frac{3}{5} = \frac{8}{5}$; $2\frac{2}{6} = \frac{14}{6}$

$1\frac{3}{5} + 2\frac{2}{6} = 3\frac{28}{30}$

6a. $1\frac{5}{28}$

7a. $\frac{8}{3} + \frac{6}{4} + \frac{2}{6} = 4\frac{6}{12}$;

$\frac{4}{3} - \frac{1}{5} - \frac{4}{15} = \frac{13}{15}$

8a. Laura's fraction is $2\frac{7}{24}$.

Greater Depth

9a. $3\frac{6}{7} = \frac{27}{7}$; $1\frac{2}{3} = \frac{5}{3}$; $2\frac{3}{4} = \frac{11}{4}$

$3\frac{6}{7} + 1\frac{2}{3} + 2\frac{3}{4} = 8\frac{23}{84}$

10a. $1\frac{27}{28}$

11a. $\frac{9}{2} + \frac{12}{3} + \frac{9}{7} = 9\frac{11}{14}$;

$\frac{13}{7} - \frac{1}{2} - \frac{4}{6} = \frac{29}{42}$

12a. Becki's fraction is $3\frac{4}{15}$.

Varied Fluency Mixed Addition and Subtraction

Developing

1b. $2\frac{2}{3} = \frac{8}{3}$; $1\frac{5}{9} = \frac{14}{9}$

$2\frac{2}{3} - 1\frac{5}{9} = 1\frac{1}{9}$

2b. $10\frac{3}{6}$

3b. $\frac{4}{5} + \frac{9}{10} + \frac{2}{5} = 2\frac{1}{10}$;

$\frac{13}{6} - \frac{2}{3} - \frac{2}{2} = \frac{3}{6}$

4b. Bill's fraction is $5\frac{12}{15}$.

Expected

5b. $2\frac{3}{8} = \frac{19}{8}$; $1\frac{2}{3} = \frac{5}{3}$

$2\frac{3}{8} - 1\frac{2}{3} = \frac{17}{24}$

6b. $10\frac{24}{45}$

7b. $\frac{8}{9} - \frac{3}{4} - \frac{1}{12} = \frac{1}{18}$;

$\frac{7}{10} + \frac{10}{4} + \frac{3}{5} = 3\frac{16}{20}$

8b. Ali's fraction is $8\frac{18}{60}$.

Greater Depth

9b. $2\frac{4}{6} = \frac{16}{6}$; $1\frac{2}{5} = \frac{7}{5}$; $1\frac{1}{8} = \frac{9}{8}$

$2\frac{4}{6} - 1\frac{2}{5} - 1\frac{2}{5} = \frac{17}{120}$

10b. $11\frac{7}{10}$

11b. $\frac{10}{3} + \frac{23}{5} + \frac{33}{6} = 13\frac{13}{30}$;

$\frac{26}{9} - \frac{5}{4} - \frac{8}{6} = \frac{11}{36}$

12b. Toby's fraction is $15\frac{11}{21}$.